PLATE V.

Fig. 1. *Lepeophtheirus rotundiventris*, ♀, sp. n., seen from the back.
1 *a*. From beneath, much enlarged. 1 *b*. Terminal portion, with caudal plates. 1 *c*. Male.
Fig. 2. *Lepeophtheirus longipalpus*, ♀, sp. n., seen from back.
2 *a*. Organs round the mouth. 2 *b*, *c*. Third and fourth peræopods. 2 *d*. Claw of fourth peræopod, much magnified. 2 *e*. Rudimentary fifth. 2 *f*. Caudal plate.
Fig. 3. *Anuretes perplexus*, ♀, sp. n., from the back.
3 *a*. Cephalothorax from beneath. 3 *b*, *c*. Third and fourth peræopods, enlarged. 3 *d*. Terminal portion of genital segment, showing fifth peræopods and caudal plates. 3 *e*. The same in varied form.

PLATE VI.

Fig. 1. *Pseudoclavella ovalis*, gen. et sp. n.
1 *a*. Seen from the back, much enlarged. 1 *b*. Side view of head and thorax. 1 *c*. Underside of cephalothorax. 1 *d*, *e*, *f*, *g*. First to fourth limbs.
Fig. 2. *Brachiella multifimbriata*, ♀, sp. n., seen from the back, with processes spread out.
2 *a*. Same, seen from the side. 2 *b*. Fixing-organ of second maxilliped. 2 *c*. Under surface of head, much enlarged, showing organs. 2 *d*. Palp, more highly magnified. 2 *e*. Male, highly magnified. 2 *f*. A. 1 and A. 2 of the same. 2 *g*. Strong first maxilliped of the same.
Fig. 3. *Lernanthropus atrox*, ♀, Heller, seen from the back.
3 *a*. Seen from the side. 3 *b*. Anterior and posterior antennæ of the same, much enlarged. 3 *c*. Male, enlarged, seen from below. 3 *d*. Mandible and maxillary palp. 3 *e*, *f*. First and second thoracic limbs.

N.B.—The line to the right of the figure gives the natural length of the animal.

XIV.—*The Species of Scorpions of the Genus* Broteas. By R. I. POCOCK.

ON page 173 of his recent 'Revision of Scorpions' Professor Kraepelin reduces the five species of *Broteas* that had been established to one, which he calls *maurus*, Herbst. As I have already pointed out, this name is, in my opinion, invalid; nevertheless the question of the name is of little importance as compared with the identity of the scorpions to which Prof. Kraepelin applies it. Being by no means satisfied as to the correctness of this author's synonymy, I wrote to M. Simon to beg for his types of *B. granulatus* and *B. paraensis* and for an example of the species he considered to be

B. Herbstii (=*maurus*, Linn., Herbst). His kind compliance with my request enabled me to satisfy myself that the species *granulatus* and *paraensis* are perfectly valid and easily recognizable forms, and that the species he had identified as *Herbstii* is not identical with the one I regarded as *Herbstii*, but is the same as my *Gervaisii*. The conclusions which I think it right to draw from these discoveries form the basis of the present paper, to which has been added the description of a well-marked new species recently received from Dutch Guiana.

Broteas granulatus, Simon.

Broteas granulatus, Simon, Ann. Soc. Ent. Fr. 1877, p. 241; id. *op. cit.* 1880, p. 382 (cited by error as *granulosus*).

Loc. Maroni, in French Guiana.

I at one time thought that the type of this species might prove to be identical with the male of the British Guiana species previously referred by me to *B. Herbstii*, Thorell, but here described as *B. subgranosus*.

An examination of the type, however, kindly submitted to me by Mons. Simon, shows that it is a female presenting features which mark it off as a very distinct form from the rest of the species of the genus, as Mons. Simon originally maintained.

Broteas paraensis, Simon.

Broteas paraensis, Simon, Ann. Soc. Ent. Fr. 1880, pp. 381–382.

Loc. Pará.

The type of this species is a female and represents a species easily distinguishable from the remaining species of the genus known to me.

Broteas Gervaisii, Poc.

Broteas Herbstii, Thor., Simon, Ann. Soc. Ent. Fr. 1877, p. 240 id. *op. cit.* 1880, p. 383, ♂ (? *Herbstii*, Thor.).

Broteas Gervaisii, Pocock, Ann. & Mag. Nat. Hist. (6) xii. p. 78, ♀; id. Ann. & Mag. Nat. Hist. (6) xix. p. 366.

Loc. Amazon Valley (? La Plata).

This species was based upon a couple of adult female examples for which no special locality was known. A young female was subsequently obtained by Messrs. Austen and Cambridge at Gurupá on the Lower Amazons, and the British Museum has recently received another of apparently the same species and also a young female from Rio Jurua, Amazons (*Dr. Bach*).

Judging from the example which M. Simon has kindly sent to me for examination, the specimen, which he identified as *B. Herbstii*, Thorell, is the male of *B. Gervaisii*.

In connexion with *B. Herbstii* of Simon, I ventured to suggest (Ann. & Mag. Nat. Hist. (6) xii. p. 79, 1893) that in the description of the first caudal segment the word *dessus* might prove to be a misprint for *dessous*. An examination of an actual specimen establishes the correctness of the supposition.

Broteas granimanus, sp. n.

Colour.—Body, palpi, and tail nearly black; vesicle and legs blackish brown.

Carapace covered with close-set scale-like granules, finer on the interocular triangle.

Tergites coarsely coriaceous and beset with granules in their posterior half; the last more coarsely granular than the others, its keels represented by a few granules.

Sternites mesially polished, finely punctulate, granular external to the stigma, the last smooth in the middle, granular at the sides.

Tail rather more than four times as long as the carapace; first segment punctured below in the middle, the median keels obsolete; the rest of the keels and the intercarinal spaces granular; vesicle serially granular below and at the sides, smooth and punctured above, as wide as or slightly narrower than fifth caudal segment.

Palpi granular above and below, less coarsely below than above; hand closely granular throughout; length of hand-back less than width of hand; movable digit a little shorter than carapace.

Legs externally granular.

Pectinal teeth 11–12.

Measurements in millimetres.—Total length 57, of carapace 8, of tail 35.

Loc. Upper Surinam River, Dutch Guiana (*C. W. Ellacombe*).

The males of this species differ from the males of all the species known to me in having the uppersides of the hands covered with bead-like granules.

Broteas subgranosus, sp. n.

Broteas Herbstii, Thor., Pocock, Ann. & Mag. Nat. Hist. (6) xii. p. 79 (1893); id. *op. cit.* (6) xix. p. 367 (? *B. Herbstii*, Thorell).

Closely related to *B. granimanus*, but with legs, vesicle, and

palpi paler reddish brown; much less distinctly granular, the tergites in the female densely punctured, in the male coarsely coriaceous or very finely and closely granular; granulation of carapace not extending on to interocular triangle, which is coriaceous. Lower surface of first caudal segment granular, the median keels granular.

Palpi substantially as in *granimanus*, but upperside of hand in both sexes densely punctured, not granular.

Pectinal teeth 9–10 (♂), 7–8 (♀).

Measurements in millimetres.—Total length 50, of carapace 7, of tail 32.

Loc. British Guiana (*W. L. Sclater*, type); Vryheids Lust, Demerara (*Turner*).

The characters of the species, of which I have examined the types, may be summarized as follows:—

a. Pectines narrow, width of shaft at base less than half its length; four inferior keels on first and second caudal segments absent, very weak on the third; intercarinal spaces of caudal segments 1–4 smooth, not granular; abdominal terga smooth, the keels of the seventh represented by four tubercles, one for each keel; sterna smooth and polished, finely punctulate at the sides; carapace not granular, at most rugose, with close-set punctuation; upperside of humerus of palp scarcely visibly granular; pectinal teeth 11 ..... *paraensis*, Sim., ♀.

b. Pectines broad at the base, the width of the shaft more than half the length at least in ♀; second caudal segment with four inferior keels, first usually with four, but the medians sometimes obsolete; intercarinal spaces of caudal segments 1–4 always more or less granular, except the lower surface of the first, which may be nearly smooth (*Gervaisii*); terga and carapace always more or less granular, the crests on the seventh represented by a series of coarse granules or small tubercles; upperside of humerus visibly granular.

*a*¹. Carapace and terga coarsely and uniformly granular throughout, though the granules are a little smaller on the anterior portion of the terga; abdominal sterna coarsely punctured throughout, the fifth granular throughout; anteocular portion of carapace strongly sloped, at least to the same extent as in *Teuthraustes*; tail coarsely and closely granular throughout, the inferior median keels of the first not traceable amongst the granules; hand punctured, not granular; pectinal teeth 7 ..... *granulatus*, Sim., ♀.

b^1. Carapace and terga much less coarsely and closely granular, granulation not extending on to the anterior portion of the terga, and only rarely (*granimanus*) on to the anteocular area of the carapace; sterna not coarsely punctured throughout, the fifth not mesially granular.

a^2. Upperside of hand entirely covered with close-set granules; anteocular portion of carapace distinctly though finely granular, lower surface of first caudal segment mesially almost smooth, with weak median keels; pectinal teeth 11–12 .... *granimanus*, sp. n., ♂.

b^2. Upperside of hand not granular, smooth, but closely punctulate; anteocular portion of carapace rugose, but scarcely granular.

a^3. Inferior surface of first caudal segment smooth or nearly so, the median keels weak, not granular, punctured; pectinal teeth 8 (♀), 10 (♂) ..... *Gervaisii*, Poc., ♂ ♀.

b^3. Inferior surface of first caudal segment distinctly granular, the median keels strong and granular..... *subgranosus*, sp.n., ♂ ♀.

The following four species, which are unknown to me in nature, may be referable to either or neither of the foregoing:—

Broteas maurus, De Geer.

Scorpio maurus, Linn., De Geer, Mém. &c. vii. p. 337, pl. xl. figs. 1–8, 1778.

Loc. America.

Broteas maurus, Herbst.

Scorpio maurus, Linn., Herbst, Nat. ungeflügelt. Insekten, pt. iv. p. 52, pl. vi. fig. 4.

Loc. Africa.

Broteas Herbstii, Thorell.

Brotheas maurus, Linn., C. Koch, Die Arachniden, iv. p. 109, fig. 319 (1838) (not *Scorpio maurus*, Linn.).

Broteas Herbstii, Thorell, Ann. & Mag. Nat. Hist. (4) xvii. p. 14 (1876).

Loc. Cayenne (French Guiana).

Dr. Thorell applied the name *Herbstii* to the species wrongly identified as *Scorpio maurus* by De Geer and later writers, including Herbst, Gervais, C. Koch, &c., without considering the possibility of more than one species being involved. I have consequently suggested (Ann. & Mag. Nat. Hist. (6) xix. p. 367) that the name be applied to the

species from Cayenne which C. Koch determined as *maurus*, and made the type of the genus *Brotheas*.

Since the species from British Guiana which I have hitherto regarded as *Herbstii* is not specifically identical with the one referred to *Herbstii* by M. Simon, and since I am not able to say which of the two species, if indeed either, is identical with what I consider to be the true *Herbstii*, it appears to me that the least harmful course to follow in the matter will be to give a new name to the British Guiana form pending an examination of the type that C. Koch had before him. In such doubtful cases as these I am convinced that it is better to give a new name to a species than a wrong one.

Broteas Alleni (Wood).

Scorpio Alleni, Wood, J. Ac. Sci. Philad. (2) v. p. 360 (1863).

According to Dr. Marx (Proc. Ent. Soc. Washington, i. p. 91, 1888) this species is identical with *Broteas Herbstii*, Thorell ; but since neither Dr. Marx nor anyone else appears to know exactly what *Broteas Herbstii* of Thorell is, the statement has no very great value except in so far as it is possible to conclude from it that the *Scorpio Alleni* of Wood belongs to the genus *Broteas*. Lastly, since the locality assigned to the species is Lower California, it is to my mind in the highest degree improbable that *Alleni* is identical with any of the South-American species mentioned above.

XV.—*Notes from the Gatty Marine Laboratory, St. Andrews.*—No. XIX. By Prof. M'Intosh, M.D., LL.D., F.R.S.

[Plate II.]

1. On some Larval Stages of *Clione limacina*, Phips.
2. On *Bipinnaria asterigera*, M. Sars (Larval Stage of *Luidia*).
3. On *Lepidonotus Wahlbergi*, Knbg., and its Relation to *L. clava*, Mont.
4. On *Sigalion squamatum*, Delle Chiaje, and its Relationships with *S. Mathildæ*, Aud. & Ed., and *S. Buskii*, McI.
5. The Nemerteans in British Text-books of Zoology.

1. *On the Larval Stages of* Clione limacina, *Phips.*

In the Ann. & Mag. Nat. Hist. for August 1887 a note on the occurrence of specimens of this species in St. Andrews Bay is recorded, and they have since been found both there